

REMARKS

Claims 1, 3, 4, 6-8, 10-14 are pending in this application. Claims 3, 6, and 7 have been previously withdrawn. Claims 2, 5 and 9 are canceled without prejudice or disclaimer. Claim 1 is amended herein. The language of the amendments to claims has been adapted from pending claims 10, 11 and canceled claim 5. Furthermore, Applicants respectfully submit that the amendment addresses the issue raised by the Examiner regarding "functional language." No new matter has been added by way of this amendment. Therefore, entry of the foregoing amendment is respectfully requested pursuant to 37 C.F.R. § 1.116 as being directed to matters of form and otherwise not requiring a new search by the Examiner. Applicants respectfully request reconsideration of the above-identified application, in view of the above amendment and following remarks.

Claim Rejections - 35 U.S.C. § 102

1. Claims 1, 4, 5 and 8 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Jacobs (US Patent No. 2,780,777) or JP 59-84615 (JP '615) or DE 4,125,768 (DE '768). Applicants respectfully submit that amended claim 1 and the claims dependent therefrom are patentably distinct from any of the cited prior art references.

Amended independent claim 1, recites, *inter alia*:

A heating and air conditioning installation for a vehicle comprising: wherein the second fluid circuit and the third fluid circuit share the same first and second three-way valves and compressor; and wherein the first and second three way valves are configured to direct fluid from the compressor in three modes...

In contrast to the elements recited in independent claim 1, Jacobs, JP '615, or DE '768 simply disclose a series of three heat exchangers wherein in two of the three heat exchangers are situated in separate compartments 31, 33, as in Jacobs, or paths/ducts as in JP '615 (ducts 9 and 10) and DE '768 (ducts 31a, 31b). Applicants respectfully submit that these references do not anticipate teach or suggest the elements as recited in independent claim 1.

Jacobs is directed to a vehicle refrigerating apparatus. As shown in Fig. 1, Jacobs discloses a compressor 24, an evaporator (36), a flow control valve or restrictor element (40) and a condenser (38). Jacobs includes a first circuit containing heating coil with the main car engine cooling system, and a second circuit including evaporator (36) and condenser (38). Jacobs does not disclose, teach or suggest a third fluid circuit, or three way valves in fluid communication with the compressor. In contrast, evaporator (36) and condenser (38) are operated in the same fluid circuit. Therefore, Jacobs fails to teach, disclose or suggest, "a heating and air conditioning installation wherein the second fluid circuit and the third fluid circuit share the same first and second three-way valves and compressor; and wherein the first and second three way valves are configured to direct fluid from the compressor in three modes..." as recited in independent claim 1.

DE '768 is directed to an air conditioning installation especially for electrically propelled vehicles, incorporating a heat pump and coolant circuits supplying warm air and rejecting cold air or vice-versa . As shown in Fig. 3, DE '768 discloses a compressor (14), sub-condenser (12), an evaporator (11) and a heat exchanger(21). DE '768 does not disclose, teach

or suggest a third fluid circuit, or three way valves in fluid communication with the compressor.

In contrast, JP '615 teaches that evaporator (11) and sub-condenser (12) are connected within the same fluid circuit. Therefore, DE '768 fails to teach, disclose or suggest, "a heating and air conditioning installation wherein the second fluid circuit and the third fluid circuit share the same first and second three-way valves and compressor; and wherein the first and second three way valves are configured to direct fluid from the compressor in three modes..." as recited in independent claim 1.

For at least these reasons, Applicants respectfully submit that claims 1, 4, and 8 are not anticipated by the cited references. Accordingly, Applicants respectfully submit that amended claim 1 and the claims dependent therefrom are patentably distinct from the cited references. Therefore, Applicants respectfully request withdrawal of these grounds of rejection.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 4, 5, 8 and 10 were rejected, as being unpatentable under 35 U.S.C. § 103(a) over the combined teaching of Enomoto (US Patent No. 5,291,941), Figure 8, with any one of Jacobs, JP '615, or DE '768. Claims 1, 4, 5, 8, 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Enomoto, in view of any one of Jacobs, JP '615, DE '768 and in further view of Volk, et al (US Patent No. 3,421,339). Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over any of the prior art as applied to claims 10 and 11 above, and further in view of Halls (USP 3,213,637 Fig. 2), Ellenberger (US Patent No. 2,776,543) or Wheeler (US Patent No. 2,769,314). Claims 13 and 14 were rejected under 35 U.S.C. § 103(a),

as being unpatentable over any one of the prior art references as applied to claims 1 and 11, respectively above, and further in view of JP 2-41917.

**A. Enomoto Does Not Teach A Three-Way Valves Configured And
Disposed To Selectively Supply Fluid to Both The Second And Third Fluid Circuits.**

Applicants respectfully submit that independent claims are patentably distinct from Enomoto taken alone or in combination with Jacobs, JP '615, DE '768. Enomoto Fig. 8 is alleged to disclose separate cooling heat exchanger 36 and heating heat exchanger 37, which are used in place of heat exchanger 14 in Enomoto's other embodiments. The Office Action relies on Jacobs, JP '615, and DE '768 for modifying Enomoto's Fig. 8 to place the heat exchangers in separate channels or ducts. However, the Office Action admits that Enomoto, "does not explicitly teach opening both valves 181 and 182 simultaneously...." three-way valve. Therefore, Enomoto does not teach first and second three-way valves and compressor; and wherein the first and second three way valves are configured to direct fluid from the compressor in three modes.

Similarly, as discussed above, Jacobs, JP' 615, and DE '768 are directed to implementing auxiliary heat exchangers in a single fluid circuit. Moreover, the references also fail to remedy Enomoto's deficiency – none of Jacobs, JP' 615, and DE '768 teach, disclose or suggest, "wherein the second fluid circuit and the third fluid circuit share the same first and second three-way valves and compressor; and wherein the first and second three way valves are

configured to direct fluid from the compressor in three modes...” as recited in independent claim 1.

However, it is disputed as to whether the configuring the three-way valves to selectively direct fluid in a third mode must be considered. Applicants submit that the above amendment is directed to the structural aspects of the invention that facilitate configuring the compressor and the three way valves to selectively direct fluid in one of three modes, as recited in amended independent claim 1. For example, independent claim 1 has been amended to affirmatively recite, “wherein the second fluid circuit and the third fluid circuit share the same first and second three-way valves and compressor; and wherein the first and second three way valves are configured to direct fluid from the compressor in three modes....”

Applicants respectfully submit that this amendment is directed to aspects of how the structural elements are formed and configured, as well as how the structural elements are disposed in relation to one another. Accordingly, Applicants respectfully submit that as discussed in further detail below, the rejections herein should be based on the claims that explicitly recite these structural elements. Therefore, Applicants submit that the claims as amended to clarify the structural relationship of the apparatus are patentably distinct from the cited references, taken alone or in combination.

B. The Alleged Combinations Of Enomoto, Volk, Jacobs, JP’ 615, and DE ‘768 Are Improper.

Applicants submit that there is no motivation to combine the systems of Enomoto, Volk, Jacobs, JP '615, or DE '768, as asserted with regard to claims 1 and 10. On page 5 of the Office Action, the Examiner asserts, "Figure 2 of Volk, et al. teaches operating a device similar to that shown in Enomoto (Figure 8) as either a cooler, heater, or simultaneously, as a cooler and a heater ("compensating mode"). To have operated valves 181 and 182... to either heat, cool, or to be both open to heat and cool simultaneously would have been obvious from the teaching of Volk, et al."

However, Applicants respectfully submit that even assuming that Volk arguably discloses a system similar to Enomoto, there is no motivation for one of ordinary skill in the art to operate either valves 181, 182 in Enomoto or a substituted three-way valve in Enomoto's Fig. 8 embodiment in the manner discussed in Volk's figure 2. Specifically, Volk does not teach or suggest that operating the valves V1, V2, and V3, in a "compensating mode" is advantageous in a way that could combined with Enomoto's Figure 8 embodiment.

The Volk patent is directed to a unidirectional heat pump that primarily is used to cool (by directing fluid to evaporator 11 with V1, V2 open, V3 closed) and to heat (by directing fluid to condenser 18 with V1, V2 closed, V3 open) conditioned space 12 without implementing a reversing valve. The Volk describes the compensating modes as follows: "Since evaporator 11 tends to cool while condenser 18 tends to heat the conditioned space, the net exchange of heat between the conditioned space and heat exchanger 32 is little or nothing." (See, Volk, Col. 4, lines 25-31.).

Moreover, the Enomoto reference teaches in each of the six embodiments disclosed therein (Figs. 1, 4, 5, 6, 7 and 8) configuring the valves to heat or to cool. In light of Volk's comments, the focus of the Volk's invention and the Enomoto patent's teachings, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to implement Volk's alternate operating mode in a modified (w/a three way-valve) implementation of Enomoto's Fig. 8 arguably attempting to obtain the claimed invention.

Applicants respectfully submit that for at least these reasons, amended independent claims 1 and 10 are patentably distinct from the cited references. Applicants also submit that the claims 4, 8 and 11-14, which are directly or indirectly dependent on amended independent claim 1 and independent claim 10, are also patentably distinct from the cited references for at least similar reasons. Therefore, Applicants respectfully request withdrawal of these grounds of rejections.

**C. The Rejections of the Claims Are Improper Because They Are Not Based
The Pending Claims In Their Entirety.**

Applicants respectfully disagree with the Examiner's assertion that that the "configured and disposed" language in the pending claims is merely functional and therefore not substantively considered as an element of the claim. The Examiner asserts, "It is well established that in a claim drawn to apparatus a new mode of operating the apparatus does not impart patentability to the apparatus itself. See MPEP 2114." Applicants submit that the principle discussed in MPEP 2114 is not applicable to the pending claim language. Specifically, the claim

language “configured and disposed” describes how the elements of the apparatus are connected, as well as go to describing how the elements are interrelated.

In contrast, in the sub-section of MPEP § 2114 titled, “Manner of Operating the Device Does Not Differentiate Apparatus Claims from the Prior Art”, the case *Ex parte Masham*, 2 USPQ2d 1647 is discussed as representative of this principle. In that case, the preamble of the claim 1 recited that the apparatus was “for mixing flowing developer material” and the body of the claim recited “means for mixing..., said mixing means being stationary and completely submerged in the developer material”. The claim was rejected over a reference which taught all the structural limitations of the claim, but the mixer was only partially submerged in the developer material. The Board held that the amount of submersion was immaterial to the structure of the mixer and thus the claim was properly rejected. In contrast to *Masham*, the configured and disposed language recited in the claims is a significant aspect of the pending claims. It describes the heating and air conditioning installation and how the elements of the apparatus are formed and interconnected.

Accordingly, due to the description of structural aspects of the invention in the configured and disposed language itself, Applicants submit that the language should in fact be given weight and considered as part of any examination of the pending claims on their merits. Therefore, Applicants respectfully request in the event that the Amendments herein are not entered and considered on their merits a new Office Action be issued based on the claims as previously pending in their entirety.

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CONCLUSION

It is now believed that all pending claims are in condition for allowance. In view of the foregoing remarks, entry of the amendment and an early and favorable reconsideration is respectfully requested.

Respectfully submitted,

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